04/11/14 Agenda

- Review Homework
  - Worksheet 8 - Factoring (a<>1)

- Polynomials - day 15
  - Factoring Trinomials where A>1

Homework
  - Finish Worksheet 9

Method 1 - Box Method

$$2x^2+13x+15$$

$$2x^2+3x+10x+15$$

	$2x$	$+3$
x	$2x^2$	$+3x$
$+5$	$+10x$	$+15$

$$(2x+3)(x+5)$$

$2 \cdot 15 = 30$ (ac)

b: $+13$

$1, 30$	$+31$	
$2, 15$	$+17$	
$3, 10$	$+13$	✓
$5, 6$	$+11$	

METHOD 2 FACTOR BY GROUPING

$3x^2 - 7x - 40$

$3x^2 + 8x - 15x - 40$

a·c	$3 \cdot -40 = -120$	b -7
	-120	-7
	$10, -12$	-2
	$8, -15$	-7

$(3x^2 + 8x) - (15x - 40)$

$x(3x+8) - 5(3x+8)$

$(3x+8)(x-5)$

Method 2 - Factor by Grouping

$$3x^2 - 7x - 40$$

$3 \cdot -40 = -120$ (a·c) $\quad -7$ (b)

$-12, 10$ $\quad -2$

$-15, 8$ $\quad -7$

$3x^2 - 15x + 8x - 40$

$(3x^2 - 15x) + (8x - 40)$

$3x(x-5) + 8(x-5)$

$(3x+8)(x-5)$

Method 2 - Factor by Grouping

$$2x^2 + 31x - 16$$

$2 \cdot -16 = -32$ (a·c) $+31$ (b)

$-1, 32$ $+31$

$2x^2 - 1x + 32x - 16$

$\frac{(2x^2 - 1x)}{x} + \frac{(32x - 16)}{16}$

$x(2x-1) + 16(2x-1)$

$(x+16)(2x-1)$

$(x+16)(2x-1)$

GROUPING

$$4x^2+62x-32$$

PULL OUT GCF 2

$$2(2x^2+31x-16)$$

$$(2)(\quad)(\quad)$$

$a \cdot c = 2 \cdot -16 = -32$ $\quad b = 31$

-32	
-1, 32	31

$$2x^2-1x+32x-16$$

$$(2x^2-1x)+(32x-16)$$

$$x(2x-1)+16(2x-1)$$

$$(2x-1)(x+16)$$

Method 3 - GCF Shortcut

$$5x^2 + 21x - 20$$

$5 \cdot -20 = -100$ (ac) $\quad +21$ (b)

-100

$-2, 50$ $\quad 48$

$-4, 25$ $\quad +21$

$(5x - 4)(5x + 25)$

NO YES

5

$(5x - 4)(x + 5)$

Method 3 - GCF Shortcut

$$6x^2 - 11x - 35$$

$6 \cdot -35 = -210$ (a·c) $\quad -11$ (b)

$10, -21$ $\quad -11$

$(6x+10)(6x-21)$

"N" "N"

6

$(6x+10)(6x-21)$

YES YES

$2 \cdot 3$

$(3x+5)(2x-7)$